

That is only 1 percent for a sector of our economy that drives as much as 85 percent of the long-term growth. We have relied on American science and scientists to combat COVID and we are not giving them the funding they need to resume the work that has been stopped by the pandemic and keep our future innovators in the system. Our STEM pipeline and future competitors could be irreparably damaged if we don't act quickly.

Mr. Speaker, that is why I am so proud to cosponsor this legislation. It will establish a pilot program at the National Science Foundation to provide 2-year fellowships to young researchers whose career paths have been disrupted by the pandemic. The bill will support 3,200 fellowships over 4 years. These fellowships will allow talented young scientists and engineers to carry out independent research at an institution of higher education of their choosing.

This bill provides targeted and temporary relief to support early-career scientists, keeping them in the STEM pipeline while the research enterprise recovers. By supporting these young researchers, we are investing in America's research and technology leadership.

This legislation has been endorsed by over 30 organizations, and has nearly as many cosponsors. It was favorably reported out of the Committee on Science, Space, and Technology on a bipartisan basis, and I strongly urge my colleagues to vote in favor of this bill.

Mr. Speaker, I, again, thank Chairwoman JOHNSON and her staff for working with me on this important legislation, and I reserve the balance of my time.

Ms. BONAMICI. Mr. Speaker, I continue to reserve the balance of my time.

Mr. LUCAS. Mr. Speaker, I yield 3 minutes to the gentleman from Michigan (Mr. MEIJER).

Mr. MEIJER. Mr. Speaker, I rise today to express my strong support for the bill on the floor this evening that will make substantial improvements in American research and development during a time when it is so badly needed. The COVID-19 pandemic has created unprecedented disruptions to our research enterprise and Congress must respond before our research community is irreparably harmed.

H.R. 144, the Supporting Early-Career Researchers Act, will address this crisis by providing funding to enable researchers to stay on their chosen research career track. This will help prevent further loss of critical talent from the U.S. STEM workforce and strengthen our Nation as we compete with China to invest in the future.

Within my district in West Michigan and across the State are some of the top-tier universities and research institutions our world has to offer. This bill will play a vital role in helping to restart any research they had to delay or postpone during the pandemic.

The pandemic has created these challenges, and our research and development fields have felt them. We must make a serious effort to increase productivity across STEM disciplines in order to remain globally competitive.

Mr. Speaker, I am proud to support H.R. 144, and I encourage my colleagues to vote with me in support of this bill.

Ms. BONAMICI. Mr. Speaker, I continue to reserve the balance of my time.

Mr. LUCAS. Mr. Speaker, I am prepared to close, and I yield myself such time as I may consume.

Mr. Speaker, America's scientific progress depends on a large pool of talented STEM professionals. Our early-career researchers are a critical link in the chain of developing the next generation of scientists.

Unfortunately, in the STEM community, these young scientists have been disproportionately affected by COVID-related lab closures, reduced funding, and hiring freezes. We risk losing these valuable scientists if we do nothing.

Mr. Speaker, I am proud to join Chairwoman JOHNSON in championing the Supporting Early-Career Researchers Act to support this up-and-coming generation of scientists and preserve America's research and technological leadership.

Mr. Speaker, in closing, I thank Chairwoman JOHNSON and her staff for working in a bipartisan and collaborative way on this legislation. I encourage my colleagues to support this bill, and I yield back the balance of my time.

Ms. BONAMICI. Mr. Speaker, I urge all of my colleagues to support the bipartisan Supporting Early-Career Researchers Act.

I thank Mr. LUCAS and Chair JOHNSON, and I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentlewoman from Oregon (Ms. BONAMICI) that the House suspend the rules and pass the bill, H.R. 144, as amended.

The question was taken.

The SPEAKER pro tempore. In the opinion of the Chair, two-thirds being in the affirmative, the ayes have it.

Mr. ROSENDALE. Mr. Speaker, on that I demand the yeas and nays.

The SPEAKER pro tempore. Pursuant to section 3(s) of House Resolution 8, the yeas and nays are ordered.

Pursuant to clause 8 of rule XX, further proceedings on this motion are postponed.

#### STEM OPPORTUNITIES ACT

Ms. BONAMICI. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 204) to direct the Director of the Office of Science and Technology Policy to carry out programs and activities to ensure that Federal science agencies and institutions of higher education receiving Federal research and

development funding are fully engaging their entire talent pool, and for other purposes, as amended.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 204

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

#### SECTION 1. SHORT TITLE; TABLE OF CONTENTS; FINDINGS.

(a) SHORT TITLE.—This Act may be cited as the “STEM Opportunities Act”.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

- Sec. 1. Short title; table of contents; findings.
- Sec. 2. Purposes.
- Sec. 3. Federal science agency policies for caregivers.
- Sec. 4. Collection and reporting of data on Federal research grants.
- Sec. 5. Policies for review of Federal research grants.
- Sec. 6. Collection of data on demographics of faculty.
- Sec. 7. Cultural and institutional barriers to expanding the academic and Federal STEM workforce.
- Sec. 8. Research and dissemination at the National Science Foundation.
- Sec. 9. Research and related activities to expand STEM opportunities.
- Sec. 10. Tribal Colleges and Universities Program.
- Sec. 11. Report to Congress.
- Sec. 12. Merit review.
- Sec. 13. Determination of budgetary effects.
- Sec. 14. Definitions.

(c) FINDINGS.—The Congress finds the following:

(1) Many reports over the past decade have found that it is critical to our Nation's economic leadership and global competitiveness that the United States educates and trains more scientists and engineers.

(2) Research shows that women and minorities who are interested in STEM careers are disproportionately lost at nearly every educational transition and at every career milestone.

(3) The National Center for Science and Engineering Statistics at the National Science Foundation collects, compiles, analyzes, and publishes data on the demographics of STEM degrees and STEM jobs in the United States.

(4) Women now earn nearly 37 percent of all STEM bachelor's degrees, but major variations persist among fields. In 2017, women earned only 20 percent of all bachelor's degrees awarded in engineering and 19 percent of bachelor's degrees awarded in computer sciences. Based on Bureau of Labor Statistics data, jobs in computing occupations are expected to account for nearly 60 percent of the projected annual growth of newly created STEM job openings from 2016 to 2026.

(5) In 2017, underrepresented minority groups comprised 39 percent of the college-age population of the United States, but only 18 percent of students who earned bachelor's degrees in STEM fields. The Higher Education Research Institute at the University of California, Los Angeles, found that, while freshmen from underrepresented minority groups express an interest in pursuing a STEM undergraduate degree at the same rate as all other freshmen, only 22.1 percent of Latino students, 18.4 percent of African-American students, and 18.8 percent of Native American students studying in STEM fields complete their degree within 5 years, compared to approximately 33 percent of White students and 42 percent of Asian students who complete their degree within 5 years.

(6) In some STEM fields, including the computer sciences, women persist at about the same rate through doctorate degrees. In other STEM fields, women persist through doctorate degrees at a lower rate. In mathematics, women earn just 26 percent of doctorate degrees compared with 42 percent of undergraduate degrees. Overall, women earned 38 percent of STEM doctorate degrees in 2016. The rate of minority students earning STEM doctorate degrees in physics is 9 percent, compared with 15 percent for bachelor's degree. Students from underrepresented minority groups accounted for only 11.5 percent of STEM doctorate degrees awarded in 2016.

(7) The representation of women in STEM drops significantly from the doctorate degree level to the faculty level. Overall, women hold only 26 percent of all tenured and tenure-track positions and 27 percent of full professor positions in STEM fields in our Nation's universities and 4-year colleges. Black and Hispanic faculty together hold about 6.8 percent of all tenured and tenure-track positions and 7.5 percent of full professor positions. Many of the numbers in the American Indian or Alaskan Native and Native Hawaiian or Other Pacific Islander categories for different faculty ranks were too small for the National Science Foundation to report publicly without potentially compromising confidential information about the individuals being surveyed.

(8) The representation of women is especially low at our Nation's top research universities. Even in the biological sciences, in which women now earn more than 50 percent of the doctorates and passed the 25 percent level 37 years ago, women make up only 25 percent of the full professors at the approximately 100 most research-intensive universities in the United States. In the physical sciences and mathematics, women make up only 11 percent of full professors, in computer sciences only 10 percent, and across engineering fields only 7 percent. The data suggest that approximately 6 percent of all tenure-track STEM faculty members at the most research-intensive universities are from underrepresented minority groups, but in some fields the numbers are too small to report publicly.

(9) By 2050, underrepresented minorities will comprise 52 percent of the college-age population of the United States. If the percentage of female students and students from underrepresented minority groups earning bachelor's degrees in STEM fields does not significantly increase, the United States will face an acute shortfall in the overall number of students who earn degrees in STEM fields just as United States companies are increasingly seeking students with those skills. With this impending shortfall, the United States will almost certainly lose its competitive edge in the 21st century global economy.

(10) According to a 2014 Association for Women in Science survey of over 4,000 scientists across the globe, 70 percent of whom were men, STEM researchers face significant challenges in work-life integration. Researchers in the United States were among the most likely to experience a conflict between work and their personal life at least weekly. One-third of researchers surveyed said that ensuring good work-life integration has negatively impacted their careers, and, of researchers intending to leave their current job within the next year, 9 percent indicated it was because they were unable to balance work and life demands.

(11) Female students and students from underrepresented minority groups at institutions of higher education who see few others "like themselves" among faculty and student populations often do not experience the

social integration that is necessary for success in all disciplines, including STEM.

(12) One in five children in the United States attend school in a rural community. The data shows that rural students are at a disadvantage with respect to STEM readiness. Among STEM-interested students, 17 percent of students in rural high schools and 18 percent of students in town-located high schools meet the ACT STEM Benchmark, compared with 33 percent of students in suburban high schools and 27 percent of students in urban high schools.

(13) A substantial body of evidence establishes that most people hold implicit biases. Decades of cognitive psychology research reveal that most people carry prejudices of which they are unaware but that nonetheless play a large role in evaluations of people and their work. Unintentional biases and outmoded institutional structures are hindering the access and advancement of women, minorities, and other groups historically underrepresented in STEM.

(14) Workshops held to educate faculty about unintentional biases have demonstrated success in raising awareness of such biases.

(15) In 2012, the Office of Diversity and Equal Opportunity of the National Aeronautics and Space Administration (in this Act referred to as "NASA") completed a report that—

(A) is specifically designed to help NASA grant recipients identify why the dearth of women in STEM fields continues and to ensure that it is not due to discrimination; and

(B) provides guidance that is usable by all institutions of higher education receiving significant Federal research funding on how to conduct meaningful self-evaluations of campus culture and policies.

(16) The Federal Government provides 55 percent of research funding at institutions of higher education and, through its grant-making policies, has had significant influence on institution of higher education policies, including policies related to institutional culture and structure.

#### SEC. 2. PURPOSES.

The purposes of this Act are as follows:

(1) To ensure that Federal science agencies and institutions of higher education receiving Federal research and development funding are fully engaging the entire talent pool of the United States.

(2) To promote research on, and increase understanding of, the participation and trajectories of women, minorities, and other groups historically underrepresented in STEM studies and careers, including persons with disabilities, older learners, veterans, and rural, poor, and tribal populations, at institutions of higher education and Federal science agencies, including Federal laboratories.

(3) To raise awareness within Federal science agencies, including Federal laboratories, and institutions of higher education about cultural and institutional barriers limiting the recruitment, retention, promotion, and other indicators of participation and achievement of women, minorities, and other groups historically underrepresented in academic and Government STEM research careers at all levels.

(4) To identify, disseminate, and implement best practices at Federal science agencies, including Federal laboratories, and at institutions of higher education to remove or reduce cultural and institutional barriers limiting the recruitment, retention, and success of women, minorities, and other groups historically underrepresented in academic and Government STEM research careers.

(5) To provide grants to institutions of higher education to recruit, retain, and ad-

vance STEM faculty members from underrepresented minority groups and to implement or expand reforms in undergraduate STEM education in order to increase the number of students from underrepresented minority groups receiving degrees in these fields.

#### SEC. 3. FEDERAL SCIENCE AGENCY POLICIES FOR CAREGIVERS.

(a) OSTP GUIDANCE.—Not later than 6 months after the date of enactment of this Act, the Director, in consultation with relevant agencies, shall provide guidance to each Federal science agency to establish policies that—

(1) apply to all—

(A) research awards granted by such agency; and

(B) principal investigators of such research and their trainees, including postdoctoral researchers and graduate students, who have caregiving responsibilities, including care for a newborn or newly adopted child and care for an immediate family member who is sick or disabled; and

(2) provide—

(A) flexibility in timing for the initiation of approved research awards granted by such agency;

(B) no-cost extensions of such research awards;

(C) grant supplements, as appropriate, to research awards for research technicians or equivalent positions to sustain research activities conducted under such awards; and

(D) any other appropriate accommodations at the discretion of the director of each such agency.

(b) UNIFORMITY OF GUIDANCE.—In providing guidance under subsection (a), the Director shall encourage uniformity and consistency in the policies established pursuant to such guidance across all Federal science agencies.

(c) ESTABLISHMENT OF POLICIES.—Consistent with the guidance under subsection (a), Federal science agencies shall—

(1) maintain or develop and implement policies for individuals described in paragraph (1)(B) of such subsection; and

(2) broadly disseminate such policies to current and potential grantees.

(d) DATA ON USAGE.—Federal science agencies shall—

(1) collect data on the usage of the policies under subsection (c), by gender, at both institutions of higher education and Federal laboratories; and

(2) report such data on an annual basis to the Director in such form as required by the Director.

#### SEC. 4. COLLECTION AND REPORTING OF DATA ON FEDERAL RESEARCH GRANTS.

(a) COLLECTION OF DATA.—

(1) IN GENERAL.—Each Federal science agency shall collect, as practicable, with respect to all applications for merit-reviewed research and development grants to institutions of higher education and Federal laboratories supported by that agency, the standardized record-level annual information on demographics, primary field, award type, institution type, review rating, budget request, funding outcome, and awarded budget.

(2) UNIFORMITY AND STANDARDIZATION.—The Director, in consultation with the Director of the National Science Foundation, shall establish a policy to ensure uniformity and standardization of the data collection required under paragraph (1).

(3) RECORD-LEVEL DATA.—

(A) REQUIREMENT.—Beginning not later than 2 years after the date of the enactment of this Act, and on an annual basis thereafter, each Federal science agency shall submit to the Director of the National Science Foundation record-level data collected under paragraph (1) in the form required by such Director.

(B) PREVIOUS DATA.—As part of the first submission under subparagraph (A), each Federal science agency, to the extent practicable, shall also submit comparable record-level data for the 5 years preceding the date of such submission.

(b) REPORTING OF DATA.—The Director of the National Science Foundation shall publish statistical summary data, as practicable, collected under this section, disaggregated and cross-tabulated by race, ethnicity, gender, and years since completion of doctoral degree, including in conjunction with the National Science Foundation's report required by section 37 of the Science and Technology Equal Opportunities Act (42 U.S.C. 1885d; Public Law 96-516).

#### SEC. 5. POLICIES FOR REVIEW OF FEDERAL RESEARCH GRANTS.

(a) IN GENERAL.—Each Federal science agency shall implement the policy recommendations with respect to reducing the impact of implicit bias at Federal science agencies and grantee institutions as developed by the Office of Science and Technology Policy in the 2016 report entitled “Reducing the Impact of Bias in the STEM Workforce” and any subsequent updates.

(b) PILOT ACTIVITY.—In consultation with the National Science Foundation and consistent with policy recommendations referenced in subsection (a), each Federal science agency shall implement a 2-year pilot orientation activity for program officers and members of standing review committees to educate reviewers on research related to, and minimize the effects of, implicit bias in the review of extramural and intramural Federal research grants.

(c) ESTABLISHMENT OF POLICIES.—Drawing upon lessons learned from the pilot activity under subsection (b), each Federal science agency shall maintain or develop and implement evidence-based policies and practices to minimize the effects of implicit bias in the review of extramural and intramural Federal research grants.

(d) ASSESSMENT OF POLICIES.—Federal science agencies shall regularly assess, and amend as necessary, the policies and practices implemented pursuant to subsection (c) to ensure effective measures are in place to minimize the effects of implicit bias in the review of extramural and intramural Federal research grants.

#### SEC. 6. COLLECTION OF DATA ON DEMOGRAPHICS OF FACULTY.

(a) COLLECTION OF DATA.—

(1) IN GENERAL.—Not later than 3 years after the date of enactment of this Act, and at least every 5 years thereafter, the Director of the National Science Foundation shall carry out a survey to collect data from grantees on the demographics of STEM faculty, by broad fields of STEM, at different types of institutions of higher education.

(2) CONSIDERATIONS.—To the extent practicable, the Director of the National Science Foundation shall consider, by gender, race, ethnicity, citizenship status, and years since completion of doctoral degree—

(A) the number and percentage of faculty;

(B) the number and percentage of faculty at each rank;

(C) the number and percentage of faculty who are in nontenure-track positions, including teaching and research;

(D) the number and percentage of faculty who are reviewed for promotion, including tenure, and the percentage of that number who are promoted, including being awarded tenure;

(E) faculty years in rank;

(F) the number and percentage of faculty to leave tenure-track positions;

(G) the number and percentage of faculty hired, by rank; and

(H) the number and percentage of faculty in leadership positions.

(b) EXISTING SURVEYS.—The Director of the National Science Foundation, may, in modifying or expanding existing Federal surveys of higher education (as necessary)—

(1) take into account the considerations under subsection (a)(2) by collaborating with statistical centers at other Federal agencies; or

(2) award a grant or contract to an institution of higher education or other nonprofit organization to take such considerations into account.

(c) REPORTING DATA.—The Director of the National Science Foundation shall publish statistical summary data collected under this section, including as part of the National Science Foundation's report required by section 37 of the Science and Technology Equal Opportunities Act (42 U.S.C. 1885d; Public Law 96-516).

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Director of the National Science Foundation \$3,000,000 in each of fiscal years 2022 through 2024 to develop and carry out the initial survey required under subsection (a).

#### SEC. 7. CULTURAL AND INSTITUTIONAL BARRIERS TO EXPANDING THE ACADEMIC AND FEDERAL STEM WORKFORCE.

(a) BEST PRACTICES AT INSTITUTIONS OF HIGHER EDUCATION AND FEDERAL LABORATORIES.—

(1) DEVELOPMENT OF GUIDANCE.—Not later than 12 months after the date of enactment of this Act, the Director, in consultation with the interagency working group on inclusion in STEM, shall develop written guidance for institutions of higher education and Federal laboratories on the best practices for—

(A) conducting periodic climate surveys of STEM departments and divisions, with a particular focus on identifying any cultural or institutional barriers to the recruitment, retention, or advancement of women, racial and ethnic minorities, and other groups historically underrepresented in STEM studies and careers; and

(B) providing educational opportunities, including workshops as described in subsection (b), for STEM faculty, research personnel, and administrators to learn about current research on implicit bias in recruitment, evaluation, and promotion of undergraduate and graduate students and research personnel.

(2) EXISTING GUIDANCE.—In developing the guidance under paragraph (1), the Director shall utilize guidance already developed by Federal science agencies.

(3) DISSEMINATION OF GUIDANCE.—Federal science agencies shall broadly disseminate the guidance developed under paragraph (1) to institutions of higher education that receive Federal research funding and Federal laboratories.

(4) ESTABLISHMENT OF POLICIES.—Consistent with the guidance developed under paragraph (1)—

(A) the Director of the National Science Foundation shall develop a policy that—

(i) applies to, at a minimum, doctoral degree granting institutions that receive Federal research funding; and

(ii) requires each such institution, not later than 3 years after the date of enactment of this Act, to report to the Director of the National Science Foundation on activities and policies developed and implemented based on the guidance developed under paragraph (1); and

(B) each Federal science agency with a Federal laboratory shall maintain or develop and implement practices and policies for the purposes described in paragraph (1) for such laboratory.

(b) WORKSHOPS TO ADDRESS CULTURAL BARRIERS TO EXPANDING THE ACADEMIC AND FEDERAL STEM WORKFORCE.—

(1) IN GENERAL.—Not later than 6 months after the date of enactment of this Act, the Director, in consultation with the interagency working group on inclusion in STEM, shall recommend a uniform policy for Federal science agencies to carry out a program of workshops that educate STEM department chairs at institutions of higher education, senior managers at Federal laboratories, and other federally funded researchers about methods that minimize the effects of implicit bias in the career advancement, including hiring, tenure, promotion, and selection for any honor based in part on the recipient's research record, of academic and Federal STEM researchers.

(2) INTERAGENCY COORDINATION.—The Director shall, to the extent practicable, ensure that workshops supported under this subsection are coordinated across Federal science agencies and jointly supported as appropriate.

(3) MINIMIZING COSTS.—To the extent practicable, workshops shall be held in conjunction with national or regional STEM disciplinary meetings to minimize costs associated with participant travel.

(4) PRIORITY FIELDS FOR ACADEMIC PARTICIPANTS.—In considering the participation of STEM department chairs and other academic researchers, the Director shall prioritize workshops for the broad fields of STEM in which the national rate of representation of women among tenured or tenure-track faculty or nonfaculty researchers at doctorate-granting institutions of higher education is less than 25 percent, according to the most recent data available from the National Center for Science and Engineering Statistics.

(5) ORGANIZATIONS ELIGIBLE TO CARRY OUT WORKSHOPS.—A Federal science agency may carry out the program of workshops under this subsection by making grants to organizations made eligible by the Federal science agency and any of the following organizations:

(A) Nonprofit scientific and professional societies and organizations that represent one or more STEM disciplines.

(B) Nonprofit organizations that have the primary mission of advancing the participation of women, minorities, or other groups historically underrepresented in STEM.

(6) CHARACTERISTICS OF WORKSHOPS.—The workshops shall have the following characteristics:

(A) Invitees to workshops shall include at least—

(i) the chairs of departments in the relevant STEM discipline or disciplines from doctoral degree granting institutions that receive Federal research funding; and

(ii) in the case of Federal laboratories, individuals with personnel management responsibilities comparable to those of an institution of higher education department chair.

(B) Activities at the workshops shall include research presentations and interactive discussions or other activities that increase the awareness of the existence of implicit bias in recruitment, hiring, tenure review, promotion, and other forms of formal recognition of individual achievement for faculty and other federally funded STEM researchers and shall provide strategies to overcome such bias.

(C) Research presentations and other workshop programs, as appropriate, shall include a discussion of the unique challenges faced by different underrepresented groups, including minority women, minority men, persons from rural and underserved areas, persons with disabilities, gender and sexual minority

individuals, and first generation graduates in research.

(D) Workshop programs shall include information on best practices for mentoring undergraduate, graduate, and postdoctoral women, minorities, and other students from groups historically underrepresented in STEM.

(7) DATA ON WORKSHOPS.—Any proposal for funding by an organization seeking to carry out a workshop under this subsection shall include a description of how such organization will—

(A) collect data on the rates of attendance by invitees in workshops, including information on the home institution and department of attendees, and the rank of faculty attendees;

(B) conduct attitudinal surveys on workshop attendees before and after the workshops; and

(C) collect follow-up data on any relevant institutional policy or practice changes reported by attendees not later than 1 year after attendance in such a workshop.

(8) REPORT TO NSF.—Organizations receiving funding to carry out workshops under this subsection shall report the data required in paragraph (7) to the Director of the National Science Foundation in such form as required by such Director.

(c) REPORT TO CONGRESS.—Not later than 4 years after the date of enactment of this Act, the Director of the National Science Foundation shall submit a report to Congress that includes—

(1) a summary and analysis of the types and frequency of activities and policies developed and carried out under subsection (a) based on the reports submitted under paragraph (4) of such subsection; and

(2) a description and evaluation of the status and effectiveness of the program of workshops required under subsection (b), including a summary of any data reported under paragraph (8) of such subsection.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Director of the National Science Foundation \$1,000,000 in each of fiscal years 2022 through 2026 to carry out this section.

#### SEC. 8. RESEARCH AND DISSEMINATION AT THE NATIONAL SCIENCE FOUNDATION.

(a) IN GENERAL.—The Director of the National Science Foundation shall award research grants and carry out dissemination activities consistent with the purposes of this Act, including—

(1) research grants to analyze the record-level data collected under section 4 and section 6, consistent with policies to ensure the privacy of individuals identifiable by such data;

(2) research grants to study best practices for work-life accommodation;

(3) research grants to study the impact of policies and practices that are implemented under this Act or that are otherwise consistent with the purposes of this Act;

(4) collaboration with other Federal science agencies and professional associations to exchange best practices, harmonize work-life accommodation policies and practices, and overcome common barriers to work-life accommodation; and

(5) collaboration with institutions of higher education in order to clarify and catalyze the adoption of a coherent and consistent set of work-life accommodation policies and practices.

(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Director of the National Science Foundation \$5,000,000 in each of fiscal years 2022 through 2026 to carry out this section.

#### SEC. 9. RESEARCH AND RELATED ACTIVITIES TO EXPAND STEM OPPORTUNITIES.

(a) NATIONAL SCIENCE FOUNDATION SUPPORT FOR INCREASING DIVERSITY AMONG STEM FACULTY AT INSTITUTIONS OF HIGHER EDUCATION.—Section 305 of the American Innovation and Competitiveness Act (42 U.S.C. 1862s–5) is amended—

(1) by redesignating subsections (e) and (f) as subsections (g) and (h), respectively; and

(2) by inserting after subsection (d) the following:

“(e) SUPPORT FOR INCREASING DIVERSITY AMONG STEM FACULTY AT INSTITUTIONS OF HIGHER EDUCATION.—

“(1) IN GENERAL.—The Director of the Foundation shall award grants to institutions of higher education (or consortia thereof) for the development and assessment of innovative reform efforts designed to increase the recruitment, retention, and advancement of individuals from underrepresented minority groups in academic STEM careers.

“(2) MERIT REVIEW; COMPETITION.—Grants shall be awarded under this subsection on a merit-reviewed, competitive basis.

“(3) USE OF FUNDS.—Activities supported by grants under this subsection may include—

“(A) institutional assessment activities, such as data analyses and policy review, in order to identify and address specific issues in the recruitment, retention, and advancement of faculty members from underrepresented minority groups;

“(B) implementation of institution-wide improvements in workload distribution, such that faculty members from underrepresented minority groups are not disadvantaged in the amount of time available to focus on research, publishing papers, and engaging in other activities required to achieve tenure status and run a productive research program;

“(C) development and implementation of training courses for administrators and search committee members to ensure that candidates from underrepresented minority groups are not subject to implicit biases in the search and hiring process;

“(D) development and hosting of intra- or inter-institutional workshops to propagate best practices in recruiting, retaining, and advancing faculty members from underrepresented minority groups;

“(E) professional development opportunities for faculty members from underrepresented minority groups;

“(F) activities aimed at making undergraduate STEM students from underrepresented minority groups aware of opportunities for academic careers in STEM fields;

“(G) activities to identify and engage exceptional graduate students and postdoctoral researchers from underrepresented minority groups at various stages of their studies and to encourage them to enter academic careers; and

“(H) other activities consistent with paragraph (1), as determined by the Director of the Foundation.

“(4) SELECTION PROCESS.—

“(A) APPLICATION.—An institution of higher education (or a consortium of such institutions) seeking funding under this subsection shall submit an application to the Director of the Foundation at such time, in such manner, and containing such information and assurances as such Director may require. The application shall include, at a minimum, a description of—

“(i) the reform effort that is being proposed for implementation by the institution of higher education;

“(ii) any available evidence of specific difficulties in the recruitment, retention, and advancement of faculty members from underrepresented minority groups in STEM

academic careers within the institution of higher education submitting an application, and how the proposed reform effort would address such issues;

“(iii) how the institution of higher education submitting an application plans to sustain the proposed reform effort beyond the duration of the grant; and

“(iv) how the success and effectiveness of the proposed reform effort will be evaluated and assessed in order to contribute to the national knowledge base about models for catalyzing institutional change.

“(B) REVIEW OF APPLICATIONS.—In selecting grant recipients under this subsection, the Director of the Foundation shall consider, at a minimum—

“(i) the likelihood of success in undertaking the proposed reform effort at the institution of higher education submitting the application, including the extent to which the administrators of the institution are committed to making the proposed reform effort a priority;

“(ii) the degree to which the proposed reform effort will contribute to change in institutional culture and policy such that greater value is placed on the recruitment, retention, and advancement of faculty members from underrepresented minority groups;

“(iii) the likelihood that the institution of higher education will sustain or expand the proposed reform effort beyond the period of the grant; and

“(iv) the degree to which evaluation and assessment plans are included in the design of the proposed reform effort.

“(C) GRANT DISTRIBUTION.—The Director of the Foundation shall ensure, to the extent practicable, that grants awarded under this section are made to a variety of types of institutions of higher education.

“(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this subsection \$8,000,000 for each of fiscal years 2022 through 2026.”

(b) NATIONAL SCIENCE FOUNDATION SUPPORT FOR BROADENING PARTICIPATION IN UNDERGRADUATE STEM EDUCATION.—Section 305 of the American Innovation and Competitiveness Act (42 U.S.C. 1862s–5), as amended by subsection (b), is further amended by inserting after subsection (e) the following:

“(f) SUPPORT FOR BROADENING PARTICIPATION IN UNDERGRADUATE STEM EDUCATION.—

“(1) IN GENERAL.—The Director of the Foundation shall award grants to institutions of higher education (or a consortium of such institutions) to implement or expand research-based reforms in undergraduate STEM education for the purpose of recruiting and retaining students from minority groups who are underrepresented in STEM fields.

“(2) MERIT REVIEW; COMPETITION.—Grants shall be awarded under this subsection on a merit-reviewed, competitive basis.

“(3) USE OF FUNDS.—Activities supported by grants under this subsection may include—

“(A) implementation or expansion of innovative, research-based approaches to broaden participation of underrepresented minority groups in STEM fields;

“(B) implementation or expansion of bridge, cohort, tutoring, or mentoring programs, including those involving community colleges and technical schools, designed to enhance the recruitment and retention of students from underrepresented minority groups in STEM fields;

“(C) implementation or expansion of outreach programs linking institutions of higher education and K–12 school systems in order to heighten awareness among pre-college students from underrepresented minority groups of opportunities in college-level STEM fields and STEM careers;

“(D) implementation or expansion of faculty development programs focused on improving retention of undergraduate STEM students from underrepresented minority groups;

“(E) implementation or expansion of mechanisms designed to recognize and reward faculty members who demonstrate a commitment to increasing the participation of students from underrepresented minority groups in STEM fields;

“(F) expansion of successful reforms aimed at increasing the number of STEM students from underrepresented minority groups beyond a single course or group of courses to achieve reform within an entire academic unit, or expansion of successful reform efforts beyond a single academic unit or field to other STEM academic units or fields within an institution of higher education;

“(G) expansion of opportunities for students from underrepresented minority groups to conduct STEM research in industry, at Federal labs, and at international research institutions or research sites;

“(H) provision of stipends for students from underrepresented minority groups participating in research;

“(I) development of research collaborations between research-intensive universities and primarily undergraduate minority-serving institutions;

“(J) support for graduate students and postdoctoral fellows from underrepresented minority groups to participate in instructional or assessment activities at primarily undergraduate institutions, including primarily undergraduate minority-serving institutions and 2-year institutions of higher education; and

“(K) other activities consistent with paragraph (1), as determined by the Director of the Foundation.

“(4) SELECTION PROCESS.—

“(A) APPLICATION.—An institution of higher education (or a consortia thereof) seeking a grant under this subsection shall submit an application to the Director of the Foundation at such time, in such manner, and containing such information and assurances as such Director may require. The application shall include, at a minimum—

“(i) a description of the proposed reform effort;

“(ii) a description of the research findings that will serve as the basis for the proposed reform effort or, in the case of applications that propose an expansion of a previously implemented reform, a description of the previously implemented reform effort, including data about the recruitment, retention, and academic achievement of students from underrepresented minority groups;

“(iii) evidence of an institutional commitment to, and support for, the proposed reform effort, including a long-term commitment to implement successful strategies from the current reform beyond the academic unit or units included in the grant proposal;

“(iv) a description of existing or planned institutional policies and practices regarding faculty hiring, promotion, tenure, and teaching assignment that reward faculty contributions to improving the education of students from underrepresented minority groups in STEM; and

“(v) how the success and effectiveness of the proposed reform effort will be evaluated and assessed in order to contribute to the national knowledge base about models for catalyzing institutional change.

“(B) REVIEW OF APPLICATIONS.—In selecting grant recipients under this subsection, the Director of the Foundation shall consider, at a minimum—

“(i) the likelihood of success of the proposed reform effort at the institution sub-

mitting the application, including the extent to which the faculty, staff, and administrators of the institution are committed to making the proposed institutional reform a priority of the participating academic unit or units;

“(ii) the degree to which the proposed reform effort will contribute to change in institutional culture and policy such that greater value is placed on faculty engagement in the retention of students from underrepresented minority groups;

“(iii) the likelihood that the institution will sustain or expand the proposed reform effort beyond the period of the grant; and

“(iv) the degree to which evaluation and assessment plans are included in the design of the proposed reform effort.

“(C) GRANT DISTRIBUTION.—The Director of the Foundation shall ensure, to the extent practicable, that grants awarded under this subsection are made to a variety of types of institutions of higher education, including 2-year and minority-serving institutions of higher education.

“(5) EDUCATION RESEARCH.—

“(A) IN GENERAL.—All grants made under this subsection shall include an education research component that will support the design and implementation of a system for data collection and evaluation of proposed reform efforts in order to build the knowledge base on promising models for increasing recruitment and retention of students from underrepresented minority groups in STEM education at the undergraduate level across a diverse set of institutions.

“(B) DISSEMINATION.—The Director of the Foundation shall coordinate with relevant Federal agencies in disseminating the results of the research under this paragraph to ensure that best practices in broadening participation in STEM education at the undergraduate level are made readily available to all institutions of higher education, other Federal agencies that support STEM programs, non-Federal funders of STEM education, and the general public.

“(6) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this subsection \$15,000,000 for each of fiscal years 2022 through 2026.”

**SEC. 10. TRIBAL COLLEGES AND UNIVERSITIES PROGRAM.**

(a) GRANTS TO BROADEN TRIBAL COLLEGE AND UNIVERSITY STUDENT PARTICIPATION IN COMPUTER SCIENCE.—Section 525 of the America COMPETES Reauthorization Act of 2010 (42 U.S.C. 1862p-13) is amended by inserting after subsection (c) the following:

“(d) GRANTS TO BROADEN TRIBAL COLLEGE AND UNIVERSITY STUDENT PARTICIPATION IN COMPUTER SCIENCE.—

“(1) IN GENERAL.—The Director, as part of the program authorized under this section, shall award grants on a competitive, merit-reviewed basis to eligible entities to increase the participation of tribal populations in computer science and computational thinking education programs to enable students to develop skills and competencies in coding, problem-solving, critical thinking, creativity and collaboration.

“(2) PURPOSE.—Grants awarded under this subsection shall support—

“(A) research and development needed to bring computer science and computational thinking courses and degrees to tribal colleges and universities;

“(B) research and development of instructional materials needed to integrate computer science and computational thinking into programs that are culturally relevant to students attending tribal colleges and universities;

“(C) research, development and evaluation of distance education for computer science and computational thinking courses and de-

gree programs for students attending tribal colleges and universities; and

“(D) other activities consistent with the activities described in paragraphs (1) through (4) of subsection (b), as determined by the Director.

“(3) PARTNERSHIPS.—A tribal college or university seeking a grant under this subsection, or a consortia thereof, may partner with an institution of higher education or nonprofit organization with demonstrated expertise in academic program development.

“(4) COORDINATION.—In carrying out this subsection, the Director shall consult and cooperate with the programs and policies of other relevant Federal agencies to avoid duplication with and enhance the effectiveness of the program under this subsection.

“(5) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Director of the Foundation \$2,000,000 in each of fiscal years 2022 through 2026 to carry out this subsection.”

(b) EVALUATION.—

(1) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Director of the National Science Foundation shall evaluate the grant program authorized under section 525 of the America COMPETES Reauthorization Act of 2010 (42 U.S.C. 1862p-13), as amended.

(2) REQUIREMENTS.—In conducting the evaluation under paragraph (1), the Director of the National Science Foundation shall, as practicable—

(A) use a common set of benchmarks and assessment tools to identify best practices and materials developed or demonstrated by the research conducted pursuant to grants programs under section 525 of the America COMPETES Reauthorization Act of 2010 (42 U.S.C. 1862p-13);

(B) include an assessment of the effectiveness of such grant programs in expanding access to high quality STEM education, research, and outreach at tribal colleges and universities, as applicable;

(C) assess the number of students who participated in such grant programs; and

(D) assess the percentage of students participating in such grant programs who successfully complete their education programs.

(3) REPORT.—Not later than 180 days after the date on which the evaluation under paragraph (1) is completed, the Director of the National Science Foundation shall submit to Congress and make available to the public, a report on the results of the evaluation, including any recommendations for legislative action that could optimize the effectiveness of the grant program authorized under section 525 of the America COMPETES Reauthorization Act of 2010, as amended by subsection (a).

**SEC. 11. REPORT TO CONGRESS.**

Not later than 4 years after the date of enactment of this Act, the Director shall submit a report to Congress that includes—

(1) a description and evaluation of the status and usage of policies implemented pursuant to section 3 at all Federal science agencies, including any recommendations for revising or expanding such policies;

(2) with respect to efforts to minimize the effects of implicit bias in the review of extramural and intramural Federal research grants under section 5—

(A) what steps all Federal science agencies have taken to implement policies and practices to minimize such effects;

(B) a description of any significant updates to the policies for review of Federal research grants required under such section; and

(C) any evidence of the impact of such policies on the review or awarding of Federal research grants; and

(3) a description and evaluation of the status of institution of higher education and

Federal laboratory policies and practices required under section 7(a), including any recommendations for revising or expanding such policies.

#### SEC. 12. MERIT REVIEW.

Nothing in this Act shall be construed as altering any intellectual or broader impacts criteria at Federal science agencies for evaluating grant applications.

#### SEC. 13. DETERMINATION OF BUDGETARY EFFECTS.

The budgetary effects of this Act, for the purpose of complying with the Statutory Pay-As-You-Go Act of 2010, shall be determined by reference to the latest statement titled "Budgetary Effects of PAYGO Legislation" for this Act, submitted for printing in the Congressional Record by the Chairman of the House Budget Committee, provided that such statement has been submitted prior to the vote on passage.

#### SEC. 14. DEFINITIONS.

In this Act:

(1) **DIRECTOR.**—The term "Director" means the Director of the Office of Science and Technology Policy.

(2) **FEDERAL LABORATORY.**—The term "Federal laboratory" has the meaning given such term in section 4 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3703).

(3) **FEDERAL SCIENCE AGENCY.**—The term "Federal science agency" means any Federal agency with an annual extramural research expenditure of over \$100,000,000.

(4) **INSTITUTION OF HIGHER EDUCATION.**—The term "institution of higher education" has the meaning given such term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(5) **INTERAGENCY WORKING GROUP ON INCLUSION IN STEM.**—The term "interagency working group on inclusion in STEM" means the interagency working group established by section 308 of the American Innovation and Competitiveness Act (42 U.S.C. 6626).

(6) **STEM.**—The term "STEM" means science, technology, engineering, and mathematics, including computer science.

The **SPEAKER** pro tempore. Pursuant to the rule, the gentlewoman from Oregon (Ms. BONAMICI) and the gentleman from Oklahoma (Mr. LUCAS) each will control 20 minutes.

The Chair recognizes the gentlewoman from Oregon.

#### GENERAL LEAVE

Ms. BONAMICI. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days to revise and extend their remarks and to include extraneous material on H.R. 204, the bill now under consideration.

The **SPEAKER** pro tempore. Is there objection to the request of the gentlewoman from Oregon?

There was no objection.

Ms. BONAMICI. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I thank Committee on Science, Space, and Technology Chairwoman JOHNSON and Ranking Member LUCAS for introducing this bill, which I am also proud to cosponsor.

I thank all of the Members on both sides of the aisle who have cosponsored the bill, the 25 organizations that have endorsed it, and the many more organizations and individuals who contributed to it.

□ 1645

The COVID-19 pandemic has shown us all the importance of a robust U.S.

research enterprise. Not only has this been essential during the pandemic, it will continue to be crucial to maintaining U.S. global leadership in science and technology.

Unfortunately, this position of global leadership is eroding. To maintain our leadership position and to lead the world in the development of technologies that may dramatically reshape our lives, the U.S. needs a talented STEM workforce that is fully representative of our population.

We have a lot of work to do on that front. Women and people of color remain severely underrepresented in STEM. As we have learned from numerous studies, this underrepresentation results from numerous cultural and institutional barriers, as well as a lack of access to resources and adequate support. It is not because of a lack of talent or interest in STEM. We have made progress on increasing the diversity of the STEM fields in recent years, but it is nowhere near enough.

We must act now to address these inequities and begin building a more diverse STEM workforce for the 21st century.

The STEM Opportunities Act requires comprehensive data collection by Federal agencies so we can better understand the challenge we are facing. It also requires the development of consistent Federal policies for recipients of Federal research awards who have caregiving responsibilities, an issue the pandemic has brought into sharper focus.

The bill requires OSTP to develop consistent guidelines and best practices for grant reviewers and program officers, as well as universities and Federal laboratories. These guidelines and best practices will assist in reducing the effects of implicit bias and identifying barriers limiting the recruitment, retention, and advancement of women and minorities in STEM.

The bill also authorizes the National Science Foundation to expand research aimed at improving the recruitment, retention, and advancement of women and minorities in STEM. NSF is also directed to award grants through the existing Tribal Colleges and Universities Program to support computer science education.

We cannot leave anybody behind in the STEM fields, and H.R. 204 will help. We give better decisions when we have people from all backgrounds around the table.

Mr. Speaker, I look forward to working with my colleagues to ensure this important bill is signed into law. I strongly urge my colleagues to support the bill, and I reserve the balance of my time.

Mr. LUCAS. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I rise today in support of H.R. 204, the STEM Opportunities Act of 2021. As a co-sponsor of this legislation with Chairwoman JOHNSON, I am pleased the House is taking it up for consideration today.

H.R. 204 continues the Science Committee's long history of bipartisan support for STEM education. The United States is in a race to remain the world's leader in science and technology. The only way we will win is by utilizing America's most valuable resource: Our people.

That means developing a diverse STEM-capable workforce at every education level and from every background.

The U.S. invests over \$1 billion a year in Federal STEM education programs. But we have not made enough progress in growing a STEM-capable workforce. We need to address that. That is why one of the key provisions of H.R. 204 is a requirement for more comprehensive data collection and analysis on the students, researchers, and faculty receiving Federal science grants.

This data will help us identify and reduce the barriers that prevent underrepresented groups from entering and advancing in STEM. It will also help us measure the success of Federal STEM programs to better direct our investments.

The bill also includes a provision directing the NSF to support computer science education through the existing Tribal Colleges and Universities Program. Access to computer science resources and developing computer skills is critical in today's economy.

The STEM employment in the United States continues to grow faster than any other job category. Employers in all sectors, including agriculture, energy, healthcare, and defense are desperate for workers with STEM skills.

In order to meet this demand, we must develop talent across all possible groups. Our bill takes important steps to ensure that we are fully engaging America's entire talent pool and maintaining our global leadership in science and technology.

H.R. 204 overwhelmingly passed the House last Congress, and I look forward to getting the bill across the finish line this year.

Mr. Speaker, I encourage my colleagues to support this bill, and I reserve the balance of my time.

Ms. BONAMICI. Mr. Speaker, a few years ago, I held an innovation roundtable in northwest Oregon, and I remember clearly one very successful tech entrepreneur answered the question: What is the best thing we can do for innovation?

He said: We need to diversify the STEM workforce because people from different backgrounds and different experiences bring different perspectives and help identify problems that others may not.

This bill will help in that effort.

Mr. Speaker, I reserve the balance of my time.

Mr. LUCAS. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, in closing, I would like to thank Chairwoman JOHNSON and her staff for working in a bipartisan fashion on this legislation and for incorporating our feedback and ideas. I look

forward to continuing to work with her to advance STEM education efforts—this Congress—that will support, encourage, and develop the next generation of STEM workers.

Maintaining our global leadership in science and technology is critical to our economic and national security. We will not be able to lead without a STEM-capable workforce for the 21st century.

Mr. Speaker, I urge my colleagues to support H.R. 204, and I yield back the balance of my time.

Ms. BONAMICI. Mr. Speaker, I, once again, urge adoption of the bipartisan STEM Opportunities Act, and I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentlewoman from Oregon (Ms. BONAMICI) that the House suspend the rules and pass the bill, H.R. 204, as amended.

The question was taken.

The SPEAKER pro tempore. In the opinion of the Chair, two-thirds being in the affirmative, the ayes have it.

Mr. ROSENDALE. Mr. Speaker, on that I demand the yeas and nays.

The SPEAKER pro tempore. Pursuant to section 3(s) of House Resolution 8, the yeas and nays are ordered.

Pursuant to clause 8 of rule XX, further proceedings on this motion are postponed.

#### MSI STEM ACHIEVEMENT ACT

Ms. BONAMICI. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 2027) to direct Federal science agencies and the Office of Science and Technology Policy to undertake activities to improve the quality of undergraduate STEM education and enhance the research capacity at the Nation's HBCUs, TCUs, and MSIs, and for other purposes.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 2027

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

#### SECTION 1. SHORT TITLE.

This Act may be cited as the “MSI STEM Achievement Act”.

#### SEC. 2. FINDINGS.

Congress makes the following findings:

(1) Evidence suggests that the supply of STEM workers is not keeping pace with the rapidly evolving needs of the public and private sector, resulting in a deficit often referred to as a STEM skills shortage.

(2) According to the Bureau of Labor Statistics, the United States will need one million additional STEM professionals than it is on track to produce in the coming decade.

(3) STEM occupations offer higher wages, more opportunities for advancement, and a higher degree of job security than non-STEM occupations.

(4) The composition of the STEM workforce does not reflect the current or projected diversity of the Nation, with Hispanics, African Americans, and other racial and ethnic minorities, significantly underrepresented in the STEM workforce compared to their presence in the workforce more generally.

(5) A stronger national commitment to increasing the diversity of the STEM workforce is needed to help address the STEM skills shortage.

(6) According to a 2019 National Academies of Sciences, Engineering, and Medicine report entitled “Minority Serving Institutions: America's Underutilized Resource for Strengthening the STEM Workforce”, 2- and 4-year minority serving institutions enroll nearly 30 percent of all undergraduate students—a percentage that is expected to grow in the coming years—in the United States higher education system and play a critical role in providing important pathways to STEM-related education, training, and careers for students of color.

(7) HBCUs, TCUs, and MSIs are highly successful at educating underrepresented minority students in STEM fields and can serve as best practice models for other colleges and universities to further expand participation of underrepresented minorities in the STEM workforce.

(8) Increased investment in STEM infrastructure at HBCUs, TCUs, and MSIs has the potential to increase these institutions' ability to educate even more students in the STEM disciplines.

(9) With the demand for STEM skills exceeding the supply of STEM graduates, success of HBCUs, TCUs, and MSIs in educating and training science and engineering leaders is increasingly important for United States economic growth and competitiveness.

#### SEC. 3. GOVERNMENT ACCOUNTABILITY OFFICE REVIEW.

Not later than 3 years after the date of enactment of this Act, the Comptroller General of the United States shall report to Congress—

(1) an inventory of competitive funding programs and initiatives carried out by Federal science agencies that are targeted to HBCUs, TCUs, and MSIs or partnerships with HBCUs, TCUs, and MSIs;

(2) an assessment of Federal science agency outreach activities to increase the participation and competitiveness of HBCUs, TCUs, and MSIs in the funding programs and initiatives identified in paragraph (1); and

(3) recommendations of the Comptroller General to increase the participation of and the rate of success of HBCUs, TCUs, and MSIs in competitive funding programs offered by Federal science agencies.

#### SEC. 4. RESEARCH AND CAPACITY BUILDING.

(a) IN GENERAL.—The Director of the National Science Foundation shall award grants, on a competitive basis, to institutions of higher education or nonprofit organizations (or consortia thereof) to—

(1) conduct research described in subsection (b) with respect to HBCUs, TCUs, and MSIs;

(2) conduct activities described in subsection (c) to build the capacity of HBCUs, TCUs, and MSIs to graduate students who are competitive in attaining and advancing in the STEM workforce;

(3) build the research capacity and competitiveness of HBCUs, TCUs, and MSIs in STEM disciplines; and

(4) identify and broadly disseminate effective models for programs and practices at HBCUs, TCUs, and MSIs that promote the education and workforce preparation of minority students pursuing STEM studies and careers in which such students are underrepresented.

(b) RESEARCH.—Research described in this subsection is research on the contribution of HBCUs, TCUs, and MSIs to the education and training of underrepresented minority students in STEM fields and to the meeting of national STEM workforce needs, including—

(1) the diversity with respect to local context, cultural differences, and institutional

structure among HBCUs, TCUs, and MSIs and any associated impact on education and research endeavors;

(2) effective practices at HBCUs, TCUs, and MSIs and associated outcomes on student recruitment, retention, and advancement in STEM fields, including the ability for students to compete for fellowships, employment, and advancement in the workforce;

(3) contributions made by HBCUs, TCUs, and MSIs to local, regional, and national workforces;

(4) the unique challenges and opportunities for HBCUs, TCUs, and MSIs in attaining the resources needed for integrating effective practices in STEM education, including providing research experiences for underrepresented minority students;

(5) the access of students at HBCUs, TCUs, and MSIs to STEM infrastructure and any associated outcomes for STEM competency;

(6) models of STEM curriculum, learning, and teaching successful at HBCUs, TCUs, and MSIs for increasing participation, retention, and success of underrepresented minority students; and

(7) successful or promising partnerships between HBCUs, TCUs, and MSIs and other institutions of higher education, private sector and non-profit organizations, Federal laboratories, and international research institutions.

(c) CAPACITY BUILDING.—Activities described in this subsection include the design, development, implementation, expansion, and assessment of—

(1) metrics of success to best capture the achievements of HBCUs, TCUs, and MSIs and students of such institutions to account for institutional context and missions, faculty investment, student populations, student needs, and institutional resource constraints;

(2) enhancements to undergraduate STEM curriculum at HBCUs, TCUs, and MSIs to increase the participation, retention, degree completion, and success of underrepresented students;

(3) professional development programs to increase the numbers and the high-quality preparation of STEM faculty at HBCUs, TCUs, and MSIs, including programs to encourage STEM doctoral students to teach at HBCUs, TCUs, and MSIs; and

(4) mechanisms for institutions of higher education that are not HBCUs, TCUs, or MSIs to partner with HBCUs, TCUs, and MSIs on STEM education, including the facilitation of student transfer, mentoring programs for students and junior faculty, joint research projects, and student access to graduate education.

(d) RESEARCH EXPERIENCES.—Grants under this section may fund the development or expansion of opportunities for the exchange of students and faculty to conduct research, including through partnerships with institutions of higher education that are not HBCUs, TCUs, or MSIs, private sector and non-profit organizations, Federal laboratories, and international research institutions.

(e) PARTNERSHIPS.—In awarding grants under this section, the Director of the National Science Foundation shall—

(1) encourage HBCUs, TCUs, and MSIs and consortia thereof and partnerships with one or more HBCU, TCU, or MSI, to submit proposals;

(2) require proposals submitted in partnership with one or more HBCU, TCU, or MSI include a plan for establishing a sustained partnership that is jointly developed and managed, draws from the capacities of each institution, and is mutually beneficial; and

(3) encourage proposals submitted in partnership with the private sector, non-profit organizations, Federal laboratories, and